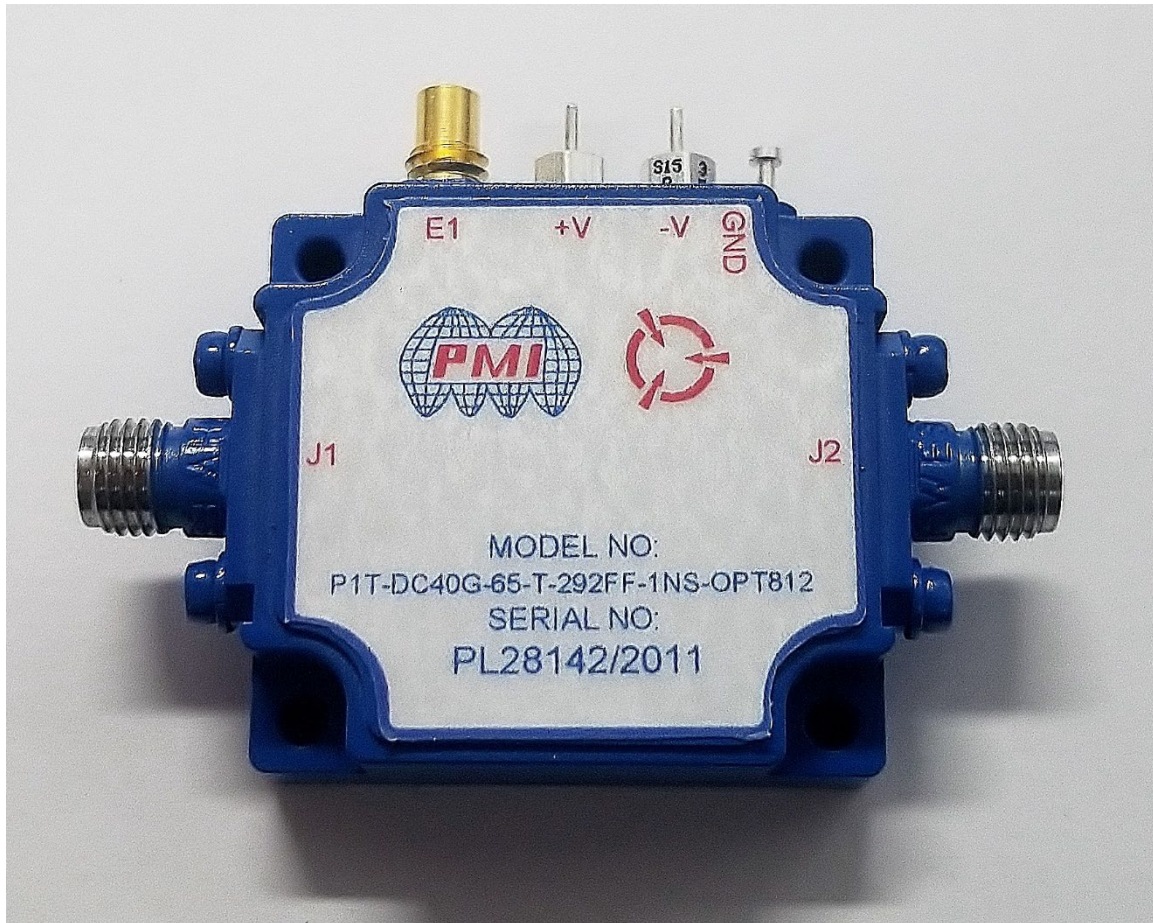




TYPICAL CHARACTERISTICS
P1T-DC40G-65-T-292FF-1NS-
OPT812

PMI MODEL P1T-DC40G-65-T-292FF-1NS-OPT812 IS AN ABSORPTIVE, SINGLE POLE, SINGLE THROW, SWITCH THAT OPERATES FROM 8 TO 12 GHz. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.



March 16, 2020

Designed By: PMI Engineering

Tested & Reported By:
Lee McGraw



TYPICAL CHARACTERISTICS

P1T-DC40G-65-T-292FF-1NS- OPT812

ZONE		REVISIONS			
		REV.	DESCRIPTION	DATE	APPROVED
A1			ORIGINAL RELEASE	11/27/10	
B1			ECN # 24-0266	10/17/24	

DESCRIPTION
 PMI MODEL P1T-DC40G-65-T-292FF-1NS-OPT812 IS AN ABSORPTIVE, SINGLE POLE, SINGLE THROW PIN DIODE SWITCH THAT OPERATES FROM 8 TO 12 GHZ. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.

MECHANICAL OUTLINE

SPECIFICATIONS

- FREQUENCY RANGE: 8 to 12GHz
- ISOLATION: 70dB Typical, 60dB Min.
- INSERTION LOSS: 3.5dB Typical, 4.5dB Max.
- VSWR IN / OUT: 2.0:1 Typical, 2.2:1 Max.
- INPUT POWER: +17 dBm CW MAX
- SWITCHING SPEED: 3ns Typical, 5ns Max.
- RISE/FALL TIME: 0.9ns Typical, 1ns Max.
- CONTROL SIGNAL: TTL "1" = ON
- DC VOLTAGE: +8 to +15V @ 15mA Max.
-8 to -15V @ 40mA Max.
- CONNECTORS IN/OUT: 2.92mm FEMALE CONNECTORS
- CONTROL CONNECTORS: SMC
- FINISH: Painted Blue
- SIZE: 1.2" X 1.3" X 0.5"

ENVIRONMENTAL RATINGS

- TEMPERATURE: -40°C TO +85°C (OPERATING)
-55°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107

NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE.
 NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

ALL DIMENSIONS ARE IN INCHES
 TOLERANCES:
 .XXX ±0.020
 .XXXX ±0.010

PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.
 7311-F GROVE ROAD
 FREDERICK, MARYLAND 21704 USA
 TEL: 301-662-5019 FAX: 301-662-1731
 WEBSITE: www.pmi-rf.com
 E-MAIL: sales@pmi-rf.com
 ISO 9001 CERTIFIED

APPROVALS		DATE	TITLE	
DESIGN	<i>PTW</i>	11/24/10	PRODUCT FEATURE	
DESIGNED	<i>JPL</i>	11/23/10	P1T-DC40G-65-T-292FF-1NS-OPT812	
ISSUED			SIZE	REV.
			A	B1
			PSCV NO.	DWG NO.
			05XQ0	27037740
			SCALE	SHEET
			N:S	1 OF 1



TYPICAL CHARACTERISTICS
P1T-DC40G-65-T-292FF-1NS-
OPT812

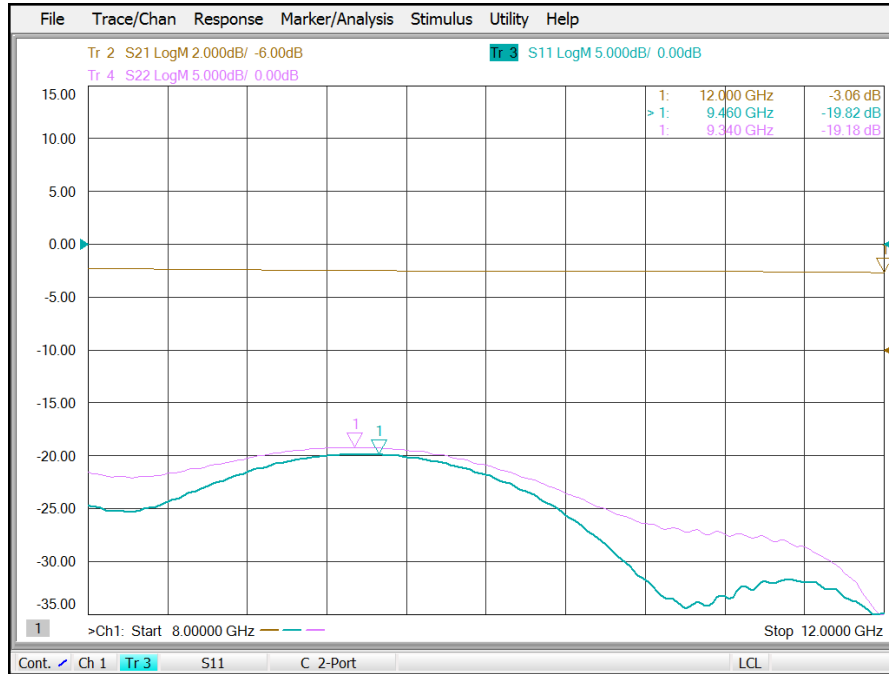
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	8 to 12 GHz	8-12GHz See Plots	
2	Isolation:	70dB Typ, 60dB Min	71dB See Plots	
3	Insertion Loss:	3.5dB Typ, 4.5dB Max	3.0dB See Plots	
4	VSWR In/Out:	2.0:1 Typ, 2.2:1 Max	1.4:1 See Plots	
5	Input Power:	+17dBm CW Max	Pass	
6	Switching Speed:	3ns Typ, 5ns Max	2.7ns See Plots	
7	Rise/Fall Time:	0.9ns Typ, 1ns Max	0.6ns See Plots	
8	Control Signal:	TTL "1" On	Pass	
9	Video Transients:	300 MHz BW (2-18GHz) : 85mV P-P 20 MHz BW (2-18 GHz) : 15mV P-P	80 mV P-P 13 mV P-P See Plots	
10	DC Voltage:	+8 to +15V @ 15mA Max -8 to -15V @ 40mA Max	+8 to +15V @ 8 mA -8 to -15V @ 27mA	

(J1-J2) Insertion Loss and Return Loss

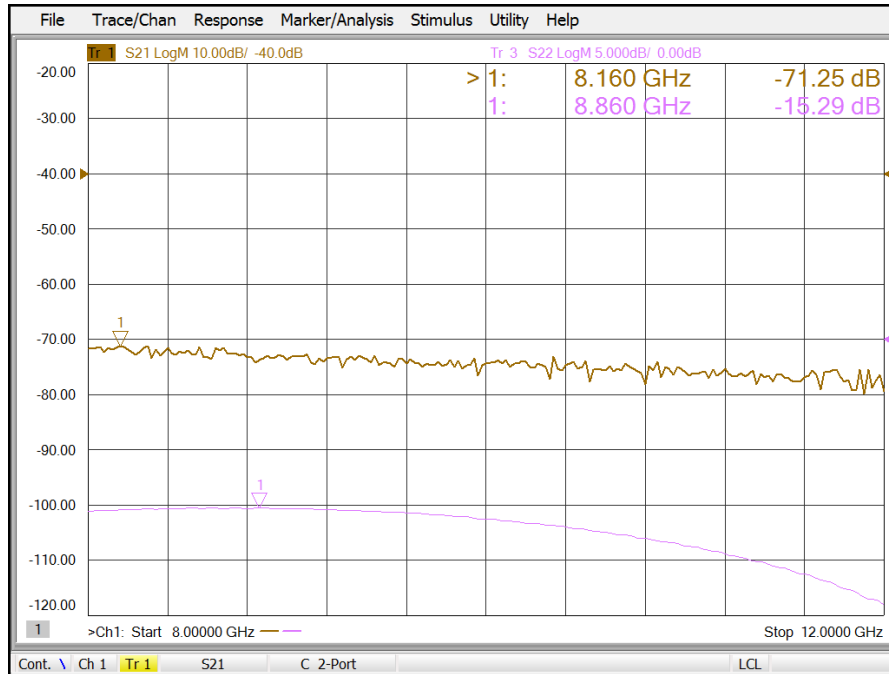
7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
 Email: sales@pmi-rf.com



TYPICAL CHARACTERISTICS
P1T-DC40G-65-T-292FF-1NS-
OPT812



(J1 – J2) Isolation and Termination Return Loss



Switching Speed
Delay On and Rise Time – 10ns per Div.

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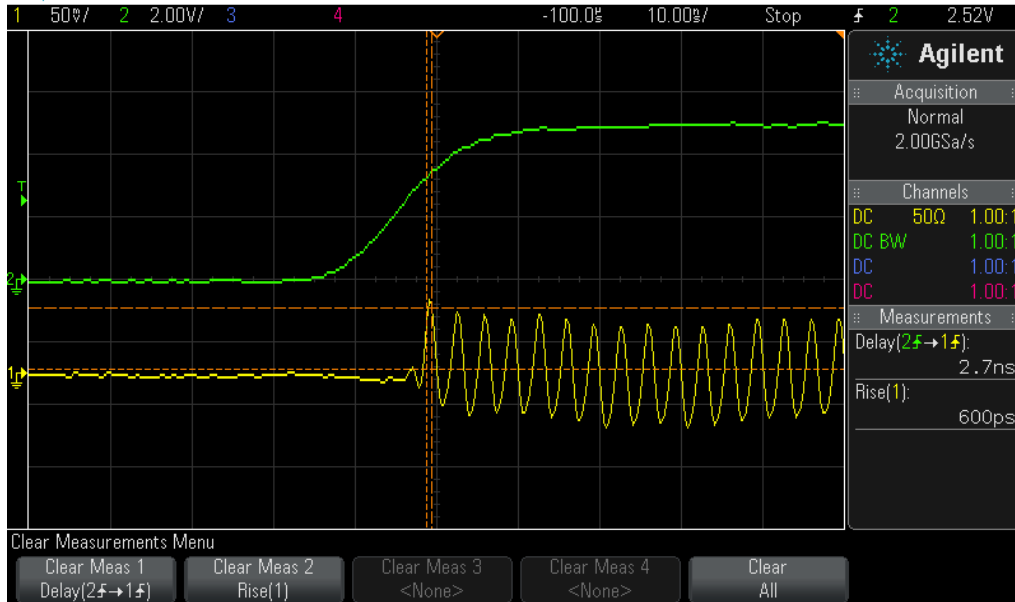
TYPICAL CHARACTERISTICS

P1T-DC40G-65-T-292FF-1NS- OPT812



Agilent Technologies

Sat Mar 22 04:51:18 2014

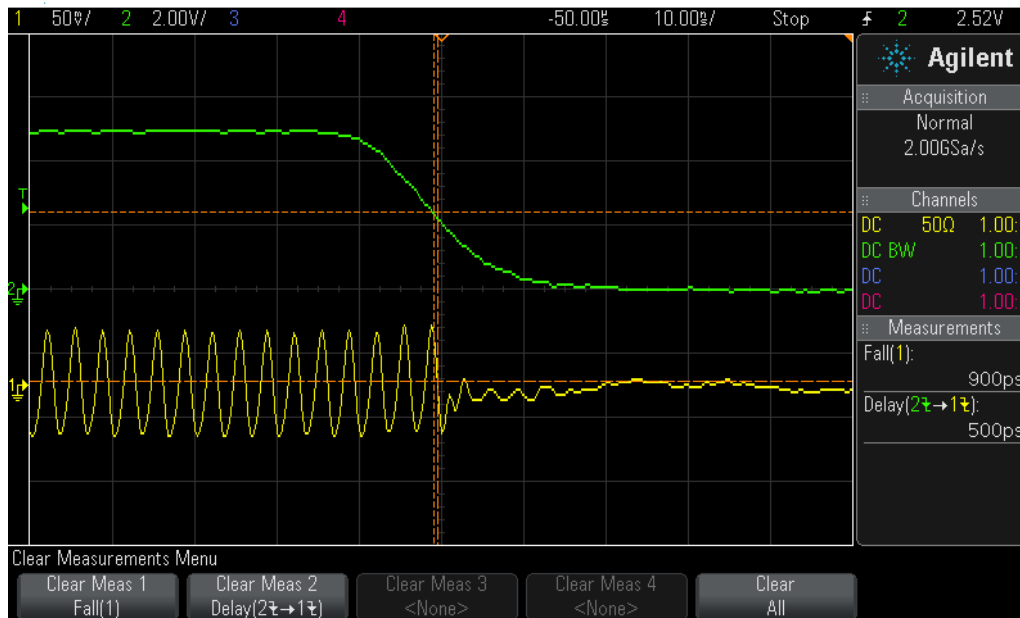


Delay Off and Fall Time – 10ns per Div.



Agilent Technologies

Sat Mar 22 04:46:34 2014



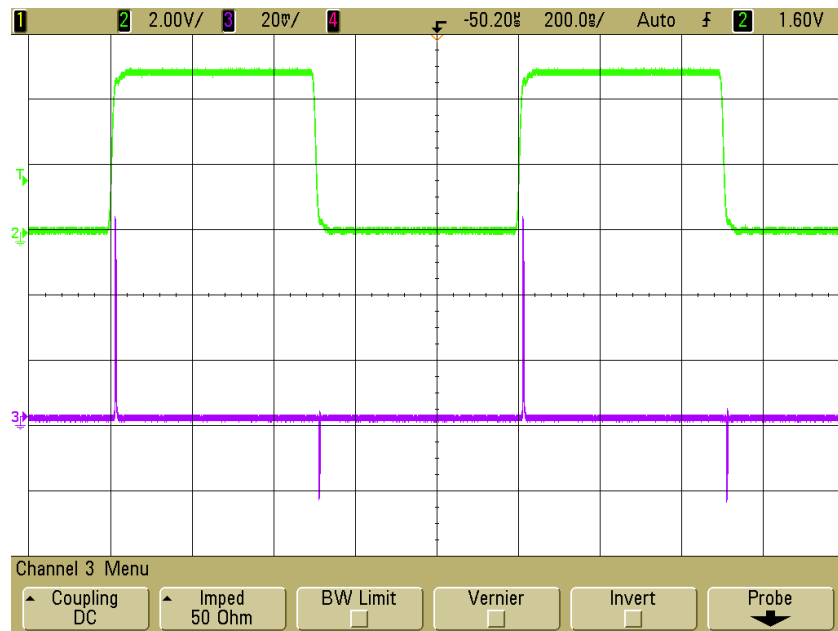
Video Transients

300 MHz Bandwidth

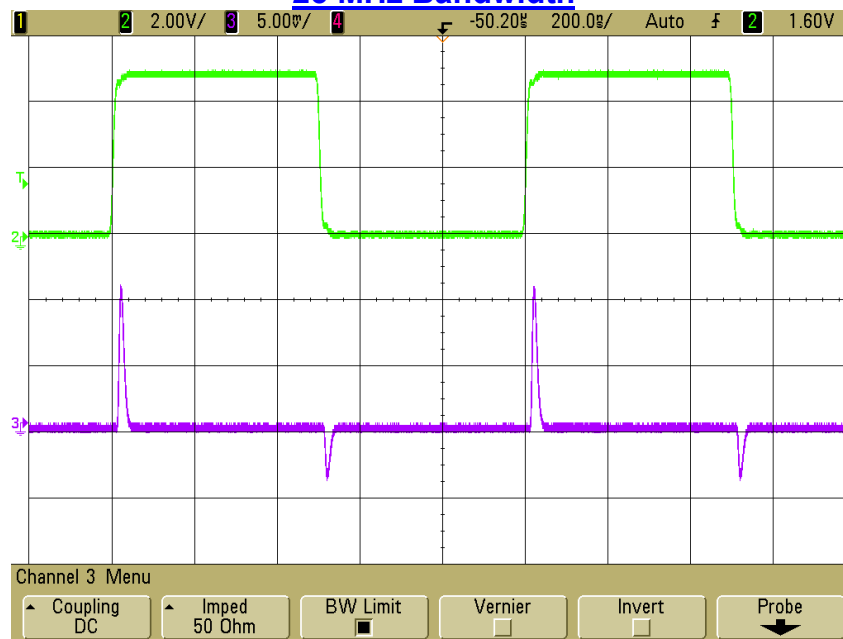
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TYPICAL CHARACTERISTICS
P1T-DC40G-65-T-292FF-1NS-
OPT812



Video Transients
25 MHz Bandwidth



Green (E1 TTL Signal), Purple (Video Transients)